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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,450	08/26/2003	Michael Doogue	ALLEG-039PUS	5775
22494	7590	04/20/2006	EXAMINER	
DALY, CROWLEY, MOFFORD & DURKEE, LLP SUITE 301A 354A TURNPIKE STREET CANTON, MA 02021-2714			NGO, HUNG V	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,450

Applicant(s)

DOOGUE ET AL

Examiner

Hung V. Ngo

Art Unit

2831

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-35 is/are pending in the application.
- 4a) Of the above claim(s) 4-8, 19-24, 34 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 9-11, 13-18, 25, 27-30, 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 12, 26 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11-2005 & 12-2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 9-11, 13-18, 25, 27-30, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steiner et al (US 6,356,068) in view of Stauth et al (US 2004/0155644).

Steiner et al disclose a lead frame having a plurality of leads (4),
a current conductor portion comprising a coupling of at least two of the plurality of leads (Fig 1);
a substrate (1) having a first surface proximate to said current conductor portion and a second surface distal from said current conductor portion; and
one or more magnetic field transducers (2) disposed on the first surface of said substrate (Fig. 4)(re claims 1, 25, 28-30, 33).

Regarding claim 9, said substrate is associated with a selected one of a solder ball, a gold bump, a eutectic and high lead solder bump, a no-lead solder bump, a gold stud bump, a polymeric conductive bump, an anisotropic conductive paste, and a conductive film (9, 10) coupled to a corresponding one of the plurality of leads (Fig 5).

Regarding claim 10, the transducers 2 are on opposite sides of a current

conductor portion axis (Fig 5).

Regarding claim 11, predetermined voltage polarities could be found via rotating the transducers.

Regarding claims 13, 27, 32, at least a portion of said current conductor portion has a rectangular cross section having a minimum dimension less than a thickness of said lead frame.

Regarding claim 17, a flux concentrator disposed proximate said one or more magnetic field transducers 21 as shown in Fig. 9.

Regarding claim 18, a flux concentrating layer 22 disposed proximate the second surface of said substrate (col. 7, lines 44-47).

Regarding claim 24, the predetermined shape comprises a rectangular shape having a minimum dimension less than a thickness of said lead frame.

The teaching as discussed above does not disclose each of the leads has a bend in a direction selected to result in each of the leads being closer to the first surface of the substrate than to the second surface of the substrate (re claim 1) and, at least one amplifier disposed on said substrate (re claims 14-16).

Stauth et al disclose each of the leads (516, 518) has a bend in a direction selected to result in each of the leads being closer to the first surface of the substrate (502, 504) than to the second surface of the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the lead portion of Steiner et al by bending in a direction selected to result in each of the leads being closer to the first surface of the substrate for the purpose of easily mounting to the circuit board.

Art Unit: 2831

Stauth et al teaches a current detector having an amplifier (506)(Fig 8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the amplifiers with the substrate of Steiner et al in order to control input/output current

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V. Ngo whose telephone number is (571) 272-1979. The examiner can normally be reached on Monday to Thursday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on (571) 272-2800 EXT 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2831

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HVN
04-16-06

Hug V. Ngo

**HUNG V. NGO
PRIMARY EXAMINER**